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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/863,974	05/23/2001	Robert J. Gartside	1094-10	1412

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EXAMINER

NGUYEN, CAM N

ART UNIT	PAPER NUMBER
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1754

DATE MAILED: 01/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/863,974

Applicant(s)

Gartside et al.

Examiner

Cam Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10/17/02 (an amendment/response)
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above, claim(s) 13-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12, 22, and 23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 4 6) ☐ Other: _____

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DETAILED ACTION

1. Applicant's election with traverse of Group I invention, claims 1-12, in Paper No. 5 is acknowledged. The traversal is on the ground(s) that "the search for claim 13 and Group II claims would also encompass a search for claim 1 and the Group I claims. Accordingly, it is respectfully submitted that both Group I and Group II claims should be examined and prosecuted on the merits in the present application" is noted. This is not found persuasive because Group I invention is drawn to a process of activating a catalyst; whereas, Group II invention is drawn to a process of isomerizing an olefinic feedstock using a catalyst activated by the same process of Group I. The Group I process and the Group II process produce different products. Since the search required for Group I is not required for Group II, and that if both groups are searched, an additional burden is imposed on the Office due to two different search areas being required.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 13-21 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim.

Applicant timely traversed the restriction (election) requirement in Paper No. 5.

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Claim Rejections - 35 USC § 102(b)/103

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 10-12 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Sun (U.S. Pat. 4,778,943).

Sun discloses regenerated (or activated) isomerization catalysts comprising at least one alkaline earth metal oxide including Mg, Ca, and Ba (see col. 1, ln 41-50 & col. 3, ln 41-44).

Recitation of product-by-process limitation in the claims is noted. While the product of the reference is not made by the same process as being claimed, the product made is the same. It has been held that "even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process

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claim is the same as or obvious from a product of the prior art, the claim is unpatentable even the prior art product was made by a different process.” See *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). See also *In re Brown*, 173 USPQ 688, 688 (CCPA 1977), *In re Fessman*, 180 USPQ 324, 326 (CCPA 1977), & MPEP 2113.

Recitation of the intended use limitation on “for double bond isomerization ... having substantially no activity-affecting amount of water or carbon monoxide” in claim 10 is noted. It is noted that this is merely the recitation of the intended use of the catalyst, and that the claimed catalyst does not depend on this recitation for completeness, but instead the limitations of the claimed catalyst are able to stand alone; see MPEP. 2111.02 and 2114. See also, *In re Pearson*, 181 USPQ 641 & *In re Thrau*, 57 USPQ 324.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-7 & 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sun (U.S. Pat. 4,778,943) taken together with Guth et al., “hereinafter Guth”, (U.S. Pat. 5,953,911).

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Sun discloses that the isomerization catalysts comprising at least one alkaline earth metal oxide including Mg, Ca, and Ba can be regenerated (or activated) by heating in an oxygen-containing gas at temperatures ranging from about 200°C to about 700°C (see col. 1, ln 41-50 & col. 3, ln 41-44). Thus, Sun teaches a process of activating a basic metal oxide isomerization catalyst as being claimed.

Sun is silent with respect to the limitation on “a dry inert gas containing not more than about 5 ppm molecular oxygen by volume”, “no more than about 2 ppm of molecular oxygen”, and “no more than about 1 ppm of molecular oxygen” in claims 1 & 23, 2, & 3, respectively. However, it would have been *prima facie obvious* to one of ordinary skill in the art at the time the invention was made to have utilized a regeneration gas, such as nitrogen, having a concentration of from about 50% to about 80% and containing substantially oxygen free with up to 1% oxygen present without significant negative effects, as taught by Guth in order to efficiently activating the basic metal oxide isomerization catalyst of Sun, because Guth fairly suggests that such regeneration gas containing nitrogen and oxygen concentrations provides an excellent carrier for the reductants (see Guth at col. 3, ln 6-30). There is a motivation to combine the teaching of the Guth reference with the Sun reference because Guth teaches his catalyst also contains alkaline earth metal compounds (see Guth at col. 4, ln 36-37).

It is considered the claimed oxygen contents are met by the teaching of the reference since Guth teaches the regeneration gas is “substantially oxygen free” (see Guth at col. 3, ln 28). The word “substantially free” encompasses the oxygen amounts that applicants claiming.

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Regarding claim 4, the claim is met by the teaching of the reference because Guth teaches a regeneration gas containing nitrogen (see Guth at col. 3, ln 6-30).

Regarding claim 5, the claimed temperature is met by the teaching of the reference since the claimed temperature falls within the disclosed temperature range (see Sun at col. 1, ln 41-50 & col. 3, ln 41-44).

Regarding claims 6 & 7, the claimed basic metal oxides are met by the teaching of the reference because Sun teaches isomerization catalysts comprising alkaline earth metals including the magnesium oxide, calcium oxide, and barium oxide that applicants claiming (see Sun at col. 1, ln 41-50).

Recitation of the intended use limitations on “double bond isomerization catalyst” and “the double bond isomerization catalyst is for the conversion of internally olefinic compounds to alpha olefinic compounds” in claim 1 & 22, respectively, is noted. It is noted that these are merely the recitations of the intended use of the catalyst activated by the claimed process, and that the claimed catalyst activation process does not depend on the preamble recitation or the intended use for completeness, but instead the limitations of the claimed process are able to stand alone; see MPEP. 2111.02 and 2114. See also, *In re Pearson*, 181 USPQ 641 & *In re Thrau*, 57 USPQ 324.

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7. Claims 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sun (U.S. Pat. 4,778,943) taken together with Guth et al., "hereinafter Guth", (U.S. Pat. 5,953,911), as applied to claims 1-7 & 22-23 above, and further in view of Didillon (U.S. Pat. 5,573,988).

Sun teaches a process of regenerating or activating a basic metal oxide isomerization catalyst as described above, except for the following differences.

Sun does not disclose "decoking the catalyst... by contacting the catalyst with an inert gas combined with at least about 2 percent by weight molecular oxygen at a temperature of at least about 460°C for at least about 6 hours" and "contacting the catalyst with an inert gas combined with at least about 20 percent by weight molecular oxygen at a temperature of at least about 500°C for at least about 18 hours", respectively.

However, it would have been *prima facie obvious* to one of ordinary skill in the art at the time the invention was made to have treated the catalyst of Sun in the same manner in order to reduce the carbon amounts deposited on the catalyst to result in a more effective catalyst, because it is known in Didillon to treat a similar coked catalyst at a temperature of between 250°C and 600°C in a gas stream containing at least oxygen and chlorine, wherein the oxygen content in said gas is between 0.3% to 51% (molar), preferably between 1% and 22% (molar), to result in essentially complete decoking of the catalyst (see Didillon at col. 3, ln 24-36). There is a motivation for combining the teaching of the Didillon reference with the Sun reference because Didillon teaches his catalyst also contains magnesium oxide (see Didillon at col. 2, ln 43).

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The claimed temperature is met by the teaching of the reference since it falls within the disclosed temperature range (see Didillon at col. 3, ln 24-36).

The claimed oxygen content is met by the teaching of the reference since the claimed oxygen contents fall within the disclosed oxygen contents (see Didillon at col. 3, ln 24-36).

With respect to the claimed treatment duration time, Didillon does not disclose the treatment time. However, it would have been *prima facie obvious* to one of ordinary skill in the art at the time the invention was made to have predetermined the time required for such treatment since time is temperature dependent.

Response to Arguments

8. Applicants' amendment/response filed on 10/17/02 has been considered, but deemed not persuasive in view of the new grounds of rejections above and the following reasons.

Applicants' urging over the Sun patent regarding the skeletal isomerization process vs. double bond isomerization process on the claimed process of activating a catalyst is noted, but not found persuasive. Since the elected claims 1-12 & newly added claims 22-23 are directed to a process of activating a catalyst, the arguments regarding the intended use of the catalyst has no bearing on the patentability of the process claims.

Applicants further urged, that "there is no basis for combining Sun and Guth, and that neither of these patents relate to the process claimed by applicant" is also noted. It is considered the combination of the references is proper since both references teach catalyst regeneration

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processes. The Guth reference was relied on by the Examiner to show that it is known to utilize the same regeneration gas as being claimed. See detailed discussion in the above rejection.

Applicants' urging over the Dillion reference is also noted, but not found persuasive for the same reasons as for Guth. It is considered the combination of the references is proper since both references teach catalyst regeneration processes. See detailed discussion in the above rejection.

It is the Examiner's position to conclude the combinations of the rejections are proper for the reasons as discussed above and in the rejections. Thus, the rejections are maintained.

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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Conclusion

10. Claims 1-21 were pending in the application. Claims 22-23 have been added. Claims 1-12 & 22-23 are rejected. Claims 13-21 are withdrawn from consideration due to nonelected (distinct) invention. No claims are allowed.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Cam Nguyen, whose telephone number is (703) 305-3923. The examiner can normally be reached on M-F from 8:30 am. to 6:00 pm, with alternative Monday off.

The appropriate fax phone number for the organization where this application or proceeding is assigned is (703) 872-9310 (before finals) and (703) 872-9311 (after-final).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Nguyen/cnn *CNN*

December 28, 2002

